

REMARKS

This application has been carefully reviewed in view of the above-referenced Office Action, and reconsideration is requested in view of the following remarks.

Regarding the Objection to the Disclosure

The requested amendment to page 1, line 30 has been made. Reconsideration is respectfully requested.

Regarding the Claim Objections

The requested amendment to claim 5 has been made. Similar amendments have been made to claims 16 and 22. These amendments clearly involve no change in claim scope. Reconsideration is respectfully requested.

Applicants appreciate the indication of allowability of claims 4, 11-14, 18, 23 and 24 if rewritten in independent form. Applicants have not made such amendments at this time in view of the following remarks. However, new claim 29 is submitted herewith for the Examiner's consideration. This claim incorporates features of certain of the claims indicated allowable, and as such is believed clearly allowable. Consideration of this new claim is respectfully requested.

Regarding the Rejections under 35 U.S.C. §102

Claims 1-3, 9, 10, 15 and 19-21 were rejected as anticipated by Fleming, of record. Applicants respectfully traverse these rejections as follows:

Regarding claims 1-3, 9 and 10, each of these claims call for "a differential detector that receives the down-converted signal and converts the down-converted signal to a differentially detected signal; and a correlator that receives the differentially detected signal and correlates the differentially detected signal with a differentially detected set of DSSS codes". It is noted that the cited reference fails to disclose or suggest that "the correlator receives the differentially detected signal" as called for by the claims. In fact, the order of Fleming's correlator and differential detectors are reversed compared with that taught and claimed by Applicants (the

output of the detector is provided to the correlator rather than vice versa). As a result, Applicant's configuration functions differently and Fleming fails to meet the claim features. The analysis appearing in approximately pages 13-19 of Applicants' specification clearly establishes the beneficial effects of differential processing at the chip rate before correlation in reducing sensitivity to frequency offset and noise. This benefit cannot be achieved with the arrangement shown in Fleming, and thus, Fleming is not believed able to achieve reduced frequency stability adequate to permit use of a non-crystal oscillator.

As the Examiner is aware, anticipation requires not only disclosure of each element in a single reference, but also requires that the elements be interconnected in the same way. In view of Fleming's reversal of components, compared with Applicant's claims, it is clear that there is no anticipation of claims 1-3, 9 and 10.

Regarding claims 19-21, these claims are method claims which similarly call for the order of functions to be reversed compared with the teachings of Fleming. Independent claim 19 calls for "differentially decoding the down-converted signal to create a differentially detected signal; and correlating the differentially detected signal with a second set of DSSS codes". Clearly, the correlating of the differentially detected signal cannot take place until after creating the differentially detected signal. Accordingly, Fleming fails to teach or suggest the interconnection of the process elements as claimed, and thus there is no anticipation for similar reasons as those presented for claims 1-3, 9 and 10.

In addition to the above, it is noted that the Office Action submits that Fig. 1, element 103 meets the claim feature of a frequency generator that generates a local oscillator signal without use of a piezoelectric crystal. Applicants have carefully reviewed Fleming and find no explicit disclosure of the nature of the oscillator 103. Applicants further note that element 103 is designated by a symbol commonly used to represent a signal source, and the Examiner acknowledges that Fleming does not teach the use of any specific oscillator (last paragraph of page 4). Applicants strongly believe that element 103 is in fact most likely a crystal based oscillator, since the oscillator would have to have the appropriate characteristics including frequency, wave shape, switching characteristics, noise property, drive level, etc. to perform satisfactorily in Fleming's circuit. However, Applicants will not undertake a detailed analysis of

Fleming's circuit at this time in order to establish this in view of the other clear distinctions noted above. However, at this time Applicants wish to disagree with the assertion that element 103 does not use a crystal.

In view of the above, it is submitted that claims 1-3, 9, 10, and 19-21 are allowable as presented. Reconsideration and allowance are respectfully requested.

Regarding claim 15, this claim has been amended to incorporate the features of claim 18 (with minor amendment as noted below) which has been indicated to be allowable. Hence, claim 15 (as well as 16-18) is submitted to also be allowable. Reconsideration and allowance are respectfully requested.

Regarding claims 2 and 20, the above remarks are applicable. In addition, Fleming describes not a "one chip symbol delay" but, rather, a "one symbol delay." In this context, the length of the symbol is the length of an entire direct sequence code word.

Regarding claims 3 and 21, the above remarks regarding the independent claims are applicable. Furthermore, Fleming's differential detector does not produce output chips of any sort. It acts on outputs of the correlators, which are correlation peaks which relate to transmitted symbols, not chips. Its output is a function of those symbols.

Regarding claims 9 and 10, the above remarks regarding the independent claims are applicable. In view of the above, claims 1-3, 9, 10, 15 and 19-21 are believed to be clearly allowable. Reconsideration is respectfully requested.

Regarding the Rejections under 35 U.S.C. §103

Claims 5, 6, 16, 17 and 22 were rejected as unpatentable over the combination of Fleming and Naden. Applicant respectfully traverses these rejections as follows:

Regarding claims 5, 16 and 22, the above remarks are applicable. Since each of these claims is dependent from an allowable base claim, they too are believed allowable. Additionally, it is noted that Naden actually describes a VCO which is part of a synthesizer that "includes a stable reference frequency source (such as a quartz crystal oscillator) which is the master clock ..." (see col. 43, line 66 through col. 44, line 3). There is no mention by Naden of operation

without a crystal. In fact, the circuit described by Naden is a good example of the type of circuit which Applicants' invention can be used to eliminate the high cost of crystal based oscillators.

Regarding claims 6 and 17, the above remarks regarding their respective base claims are equally applicable. Hence claims 6 and 17 are believed allowable.

In view of the above, reconsideration and allowance are respectfully requested.

Regarding the Rejections under 35 U.S.C. §112

Claim 8 was rejected as non-enabling. Applicant respectfully traverses this rejection and requests reconsideration. While Applicant did not disclose every detail of a multiple conversion frequency converter, it is believed clear that that level of disclosure is not required. Multiple conversion frequency converters have been in use since the 1920s, as evidenced by U.S. Patent No. 1,342,885 to Armstrong issued June 8, 1920, which discloses an early example (See Fig. 4 and associated text) of a multiple conversion frequency converter (a dual conversion superheterodyne receiver). Multiple conversion frequency converters are therefore a clearly understood variant of a frequency converter (such as element 108 of the present application) by those of ordinary skill in the art. Accordingly, Applicants submit that claim 8 is fully enabled and generically represented by element 108 of the Figures. Reconsideration and allowance are therefore respectfully requested.

Concluding Remarks

Claims 7 and 15 have been amended to assure that the word "or" is correctly interpreted to mean either one or both as originally intended, and to assure that it cannot be interpreted to mean exclusively one or the other.

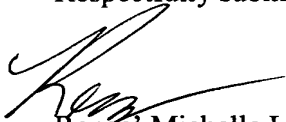
New claims 25 – 28 are submitted herewith for the Examiner's consideration. These claims call out various transmitter features in combination with their base claim. These features are disclosed in connection with Figures 2 and 3, and associated text. Consideration of these new claims is respectfully requested.

The undersigned notes that many other distinctions exist between the cited art and the claims. However, in view of the clear distinctions pointed out above, further discussion is believed to be unnecessary at this time. Failure to address each point raised in the Office Action should accordingly not be viewed as accession to the Examiner's position or an admission of any sort.

No amendment made herein was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim unless an argument has been made herein that such amendment has been made to distinguish over a particular reference or combination of references.

In view of this communication, all claims are now believed to be in condition for allowance and such is respectfully requested at an early date. If further matters remain to be resolved, the undersigned respectfully requests the courtesy of an interview. The undersigned can be reached at the telephone number below.

Respectfully submitted,



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